RANCHO SANTA ANA BOTANIC GARDEN
LEAFLETS
of
POPULAR INFORMATION

NUMBER 38 APRIL 4, 1941

1941

THUJA PLICATA

GIANT-CEDAR

RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

THUJA PLICATA
GIANT-CEDAR

Cupressaceae Cypress Family

Tree to 200 ft. in height, of pyramidal shape, with a slender, usually drooping leader, branches more or less horizontal with the ultimate portions drooping and composed of many flat sprays, the foliage of which is glossy dark green above and lighter beneath. Trunks of old trees broad at base (often as much as 16 ft. in diam.), but soon becoming much smaller; bark rather thin, rough and fibrous. Leaves scale-like, opposite, arranged in 4 rows, those on margins of sprays keeled and acute, those above and below flattened and broadly triangular. Staminate and pistillate cones borne on same tree, solitary at tips of short branchlets. Staminate cones less than $\frac{1}{4}$ in. long, with 4-6 scales, each with 2-4 pollen sacs. Pistillate cones mature the first autumn, light brown, $\frac{1}{2}$-$\frac{3}{4}$ in. long, composed of 8-12 oblong, leathery scales with thickened tips, each with 2 ovules, but upper and lower pairs usually sterile. Seeds about $\frac{1}{8}$ in. long, winged all around, but notched at apex. Cotyledons 2, in seedlings, these linear, about $\frac{3}{8}$ in. long; juvenile leaves apparently in 4's, slightly shorter than the cotyledons and spreading or erect (not adnate as in mature leaves).

The genus *Thuja* (sometimes spelled *Thuya*) is most closely related to *Thujopsis* and *Libocedrus*. The name is of ancient Greek origin and was applied to some resinous tree. Five species are known, of which 3 are in Asia and 2 in North America. From these, many horticultural forms have been derived and are extensively used in gardens.

Thuja plicata (the specific name meaning folded or plaited is in reference to the foliage) was described in 1811 by David Don, an English botanist, based upon specimens collected by Don Luis Neé on an expedition to the Northwest Coast under Malaspina and which were probably from Nootka Sound. Some authorities contend that Menzies was the original collector of this species and that he got his material on Vancouver Island while on the famous voyage of Capt. Vancouver. Two other names have also been applied to this tree, being *T. gigantea* by Nuttall in 1854 and *T. Menziesii* by Carriére in 1855, but both are strictly synonymous with *T. plicata*.

This species is known under several English names, including Giant-Cedar, Canoe-Cedar, Oregon-Cedar, Red-Cedar and Giant Arborvitae. It has a wide distribution from southeastern Alaska south to Humboldt Co., California and east to western Montana. It attains its best development in Washington and British Columbia where trees of nearly 200 ft. in height are abundant in the rich coastal lowlands. In California it is seldom over 80-100 ft. in height. Giant-Cedars are usually not found in pure stands but mixed with Redwoods, Douglas-Fir, Lowland Fir, Sitka Spruce and Coast Hemlocks.

Giant-Cedar has many uses. Indians hollowed the huge logs for canoes and used the fibrous bark for weaving baskets and clothing. Nowadays it is a major source of exceptionally durable shingles.

Thuja plicata has been cultivated for nearly a century in the eastern United States and Europe where it has been highly valued. Prof. Rehder, in writing of the genus, has stated that "the most beautiful and most rapidly growing species is *T. plicata.*" It has been planted to a limited extent in northern California, but is practically unknown in southern California gardens.

Our plantings of Giant-Cedar number about 236 trees and were grown from seeds collected in October, 1930, in Humboldt Co. Many of these trees are now about 20 ft. high, have a spread of 10-12 ft. and taper gracefully to a slender leader. Their drooping sprays of rich green foliage and their slightly irregular pyramidal shape make them one of the most beautiful conifers in the Garden. Our finest planting is on an east slope hillside in rich loam and it is doubtful if any young stands of wild trees in California surpass them in beauty. Thus far the drying desert winds so frequent during the fall months in this region have caused little or no burning of the foliage. However, after long hot summers the foliage does become slightly yellowish-green instead of the usual deep glossy green.

Propagation of *Thuja plicata* is relatively easy from fresh seeds planted in seed beds of sandy loam in the fall or very early spring. The seedlings are easily handled and should be 2-4 in. high by late spring. One-year old plants are nearly 1 ft. high and can be set out in their permanent places. Such small plants are preferable to larger ones in that there is less likelihood of the roots being coiled or the plants stunted. Cuttings taken in the fall may also be used in propagating this species, but are slower than seedlings. Giant-Cedars need rich, deep, moist soils for best development, but should never be planted in low, poorly drained spots where the ground will be waterlogged during the winter months.

Giant-Cedars require considerable room to develop properly and should not be planted where it will be necessary to trim off the lower branches since this would destroy much of the beauty of the trees. Plantings should be restricted to the coastal sections of southern California, for it is extremely doubtful if the species will long succeed in the hot interior sections.

Persons in southern California who desire to purchase Giant-Cedars will find it necessary to order from nurserymen in northern California, Oregon or Washington, since none of the local nurserymen appear to stock this species at present.

CARL B. WOLF

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

"THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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Published by the
DR. ERNEST A. BRYANT GARDEN PUBLICATIONS FUND
RANCHO SANTA ANA BOTANIC GARDEN
R. F. D. Anaheim, California